What is claimed is:

1. In a printing system, a method for detecting defects of a printed image to analyze print quality of the printed image, said method comprising the steps of:

(a) providing first image data for printing an image in the printing system;

(b) adding one or more reference marks to the first image data to indicate relative pixel locations of the first image data from the one or more reference marks;

(c) printing on a substrate the image with the one or more reference marks;

(d) scanning the printed image to obtain second image data; and

(e) analyzing the second image data based on the first image data of the same pixel, pixel locations of the second image data being determined relative to the one or more reference marks.

2. The method of claim 1 wherein said first image data is originated from an image scanner for reading an original.

3. The method of claim 1 wherein said first image data is originated from a computer system that generates an image that is printed in the printing system.

4. The method of claim 1 wherein said reference mark is added to one of corners in the image.

5. The method of claim 1 wherein the analyzing step comprises the steps of:

acknowledging the one or more reference marks in the second image data;

comparing a pixel of the first image data with a pixel of the second image data at the same location relative to the one or more reference marks;

calculating a difference between the first image data and the second image data for each pixel;

examining the difference of a pixel between the first image data and the second image data to determine whether the pixel of the second image is defective or not.

6. The method of claim 5 further comprising the step of inputting a threshold value of the difference for determining whether a pixel of the second image is defective or not.

7. The method of claim 5 further comprising the steps of:

counting the number of defective pixels in the second image data; and

where the number of defective pixels is greater than a predetermined value, controlling the printing system to stop printing or auto-purge the defective image from the system.

8. In a printing system, a method for detecting defects of a printed image to analyze print quality of the printed image, said method comprising the steps of:

(a) generating a half-tone image having one or more half-tone values;

(b) printing the half-tone image;

(c) scanning the printed half-tone image to obtain half-tone values for the half-tone image printed; and

(d) analyzing the printed half-tone image based on originally generated half-tone image.

9. The method of claim 8 wherein said analyzing step comprises the steps of:

(e) determining a half-tone value of printed half-tone image for each pixel;

(f) calculating differences of half-tone values between the printed half-tone image and the originally generated half-tone image;

(g) examining the difference of a pixel to determine whether the pixel of the printed half-tone image falls into a defect.

10. The method of claim 9 further comprising inputting a threshold value of the difference for determining whether a pixel of the printed half-tone image falls into a defect.

11. The method of claim 9 further comprising the steps of:

counting the number of defects in the printed half-tone image; and

where the number of defects is greater than a predetermined value, controlling the printing system to stop printing or auto-purge the defective image from the system.

12. In a printing system, a method for detecting defects of a printed image to analyze print quality of the printed image, said method comprising the steps of:

(a) providing first image data for printing an image in the printing system;

(b) printing the image based on the first image data;

(c) examining registration and skew of the printed image; and

(d) where there is no skew of the printed image, scanning the printed image to obtain second image data; and

(e) analyzing the second image data based on the first image data, pixel locations of the second image data being assumed the same as pixel locations of the first image data.

13. The method of claim 12 wherein said first image data is originated from an image scanner for reading an original image.

14. The method of claim 12 wherein said first image data is originated from a computer system that generates an image that is printed in the printing system.

15

16. The method of claim 12 wherein said analyzing step comprises the steps of:

comparing a pixel of the first image data with a pixel of the second image at the same locations;

calculating a difference between the first image data and the second image data for each pixel; and

examining the difference of a pixel to determine whether the pixel of the printed image falls into a defect.

16

17. The method of claim 16 further comprising inputting a threshold value of the difference for determining whether a pixel of the printed image falls into a defect.

17

18. The method of claim 16 further comprising the steps of:

counting the number of defects in the printed image; and

where the number of defects is greater than a predetermined value, controlling the printing system to stop printing or auto-purge the defective image from the system.

18

19. In a printing system, a method for detecting skew of printed image, said method comprising the steps of:

(a) providing first image data for printing an image in the printing system;

(b) printing the image;

(c) scanning the printed image to obtain second image data; and

(d) analyzing the second image data based on the first image data; and

(e) detecting skew of the printed image based on the analysis of the printed image.

19

20. The method of claim 19 further comprising the step of:

(f) adding one or more reference marks to the first image data to indicate relative pixel locations of the first image data from the one or more reference marks, pixel locations of the second image data being determined relative to the one or more reference marks.

20. The method of claim 19 wherein the analyzing step comprises the steps of:

acknowledging the one or more reference marks in the second image data;

comparing a pixel of the first image dada with a pixel of the second image data at the same location relative to the one or more reference marks; and

calculating a difference between the first image data and the second image data for each pixel.

21.

22. An apparatus for detecting defects of a printed image to analyze print quality of the printed image, said apparatus comprising the steps of:

(a) a processor for generating first image data for printing an image;

(b) a printing engine for printing the image on a substrate based on the first image data;

(c) a scanner for scanning the printed image to obtain a second image data; and

(d) wherein said processor compares the second image data with the first image data to detect defects of the printed image and determine the print quality.

23. The apparatus of claim 22 further comprising a memory device for storing a threshold value of a difference of a pixel between the first image and the second image for determining whether the pixel of the printed image falls into a defect.

24. The apparatus of claim 22 further comprising a scanner for reading an image in an original and sending the original image to the processor.

25. The apparatus of claim 22 wherein said processor adds at least one reference mark to the first image data to indicate relative pixel locations of the first image data from the one or more reference marks.

26. The apparatus of claim 22 wherein said processor generates a half-tone image data for printing, said half-tone image data having at least one half-tone values.

27. The apparatus of claim 25 wherein said reference mark is located at one of corners in the image.

28. The apparatus of claim 25 wherein said processor compares a pixel of the first image with a pixel of the second image at the same locations from at least one reference mark, calculates a difference between the first image and the second image for each pixel, and determines whether each pixel of the printed image falls into a defect.

29. The apparatus of claim 27 wherein said processor counts the number of defects in the printed image and determines the quality of the printed image based on the number of defects in the printed image.

30. The apparatus of claim 26 wherein said processor determines a half-tone value of printed half-tone image for each pixel and calculates a difference of half-tone values between the printed half-tone image and the originally generated half-tone image, and determines whether a pixel of the printed image falls into a defect.

31. The apparatus of claim 30 wherein said processor counts the number of defects in the printed half-tone image and controls the printing apparatus to stop printing or auto-purge the defective image from the system based on the number of defects in the printed image.